

THE LEISURE HOUR.

A FAMILY JOURNAL OF INSTRUCTION AND RECREATION.

"BEHOLD IN THESE WHAT LEISURE HOURS DEMAND,—AMUSEMENT AND TRUE KNOWLEDGE HAND IN HAND."—*Cowper.*



NEWS FROM ABROAD.

TOO SOON.

CHAPTER XXV.—A PARTING.

WEDNESDAY was a weary day to Ursula. On the previous evening an old friend of her husband called in unexpectedly, and on this Wednesday morning Michael had been too much engaged in giving her various directions to leave time for any talk. But now he had come home again, and she began to

realise that when next he left her there would be a longer, wearier time to get through than even this day had been.

"Alone, too," she said, "and yet I like best to be alone when I am away from Michael. I only care to talk of him, and I could not speak of him to any one, unless, perhaps, Aunt Sophy. Poor dear aunt, how much fonder I seem to have got of her since she went away. I wish she had left me Jumbo, I could have talked as much nonsense as I liked to dear old Jum,

and he would have wagged his tail and enjoyed it, pretty old thing."

And yet, though her heart grew heavier and heavier, she dared not let Michael guess at what it cost her to part with him.

"He will never go if I do tell him, he is so kind; he will stay at home and make a victim of himself."

Michael sat thinking. "How little she cares about my going. I could not have believed it."

So dinner-time passed away, Ursula forcing herself to be gayer than usual. It seemed to her that if she expressed any regret, she should cry and make herself silly.

In the evening, Michael had still a few arrangements to make. Ursula helped him to look out some books, and to pack his writing-case, and then he told her she looked tired.

"I will say good night, and see you off to bed, darling, before I start," he said; "I don't at all fancy leaving you alone in this great dark house."

Ursula felt that she could not let him go in this fashion. She must put her arms round him, and ask him to forgive her coldness, but while she stood silent, trying to get courage, he spoke again.

"Ursula, my dear child"—he took her hands, and Ursula trembled like a leaf. What was he going to say?—"I want to tell you something I have arranged for you. I would not speak of it before, because I thought something might occur to prevent it." His dread had been that Rachel would change her mind. "I can't leave you alone with servants. Suppose you were to be ill, or anything were to happen; I have settled that Rachel shall stay with you till I come back."

He could not see the repugnance in her face, but he felt her struggle.

"Oh, no! Please not that. I would so much rather be alone."

Michael bent down and kissed the rosy pleading lips. He folded his arm closely round her.

"Do not let us dispute about it now, dearest child. You would not willingly make me unhappy, I am sure you would not, and I could not be happy to go away and leave you without any one to care for your comforts. No, my darling, you cannot refuse me this, just as I am leaving you. I know you will be kind to Rachel for my sake."

He waited, but she did not speak; all her penitence had fled, it was as much as she could do to keep silence.

"One thing I want to say"—he kept her so closely clasped to him that she could not see his face—"from what cause I do not know; it may be from some fault of mine; a something—I hardly know by what name to call it—has come between us. We must try and begin again when I come back; and if the fault has been mine you must teach me to correct it. Now, good night, my own precious darling."

He hurried away; he felt if he lingered that he should not have courage to go, and yet after he had driven off he longed to go back.

CHAPTER XXVI.—A SUMMONS.

URSULA sobbed herself to sleep. She scarcely knew which was the greatest misery, her husband's departure or the prospect of Miss Fraser's visit; yet formerly, spite of her dissatisfied temperament, the craving of a nature which as yet was ignorant of full sympathy, she had soon reconciled herself to annoy-

ances. Her husband's absence was different; it could not be expected, she thought, that she could be happy about that, or quite forgive Michael for being able to leave her. As to Miss Fraser, at first Ursula had rebelled with all the strength of her pride and her self-will; then, when she felt that her husband was determined, she had submitted, partly from the reverence she still felt for him, and partly from a superstitious dread of any dispute at leave-taking. This morning she fully realised his departure, and in the passionate longing that filled her heart she could hardly believe in her own coldness; she felt as if she could kneel down and kiss the place where he had stood bidding her good-by, and with the swift energy of her nature fairly roused, she resolved to show her devotion to Michael by good behaviour towards his cousin.

She had begun the morning by leaning back listlessly in an easy-chair counting the hours that she must pass without her husband. But now she started up, and surprised her maids by personally inspecting the room which she chose for Miss Fraser. Then she went out and bought some flowers, and by the time her visitor arrived she had tired herself in hospitable preparations, and felt deserving and virtuous.

Miss Fraser came in shy and stiff, though she tried to smile cheerfully.

"You are very kind to come to see only me."

Ursula held up her face to be kissed. Miss Fraser was touched, but she had nothing of Ursula's elastic temperament; the joints of her nature were too stiff for swift transitions. Her hard expression relaxed, and she gave Ursula a kiss—at least the sort of caress which goes by the name with some people, no true return to the warm, upspringing lips which pressed her cheek so affectionately.

"Cold old creature!" the cloud was back for an instant on Ursula's face, but she struggled to send it away. "Perhaps she does not like the formality of kissing; I don't. Why should I expect her to like it?"

She took Miss Fraser up to her room, but she felt too timid to stay there with her.

"Oh, dear!" she said to herself, as she closed the door of her visitor's bedroom, "it seemed easy enough before she came, but it is not easy in her atmosphere; she is made up of whalebone and ice, and I feel stiffened all over, and there will be no one to help us over uncomfortable hitches if we get into them. I suppose if I could make her like me as she likes Michael, then she would seem pleasanter. But she can't like me much—who could? no one ever really loved me except Michael, and perhaps he is leaving off."

Her face quivered at this; it was as much as she could do to keep back tears, the anguish at her heart was so intense.

But after all, she thought, Miss Fraser's visit was a blessing; she should not have time to think of her misery in the daytime. And in half an hour's time, when Miss Fraser came down-stairs with a small work-basket and a large roll of worsted work, Ursula was so bright and full of spirits that Rachel sighed.

"There is no doubt about Michael's love," she thought; "its very blindness shows its strength, but it is not appreciated. Poor fellow! how little she cares for him in comparison."

Women are so much more presumptuous than men are. You will rarely hear an unmarried man

judging another often n feels sh ought t feminin doubtfu whether to other when sh husband ward o tives, u much l where t and imp tive po It is woman Rachel ing her to grow measur would I Just as they do outside even th to all o love th the per with th to judg transfo we kno when t or a wi But not lov passion again, brought selfish "If not ha long b newly- strang laughs Ursu the wo and b the gi looked "W amusem loaths Miss "Y is very table-c "Y black a little s fearful The any st longed Micha b her

judging of the amount of affection shown or felt by another man for his wife; but a single woman has often no diffidence or hesitancy. The love that she feels she could give a man is just the love his wife ought to show towards him. Now, as a rule, the feminine mind is so contradictory, that it is very doubtful, except where she is sure of sympathy, whether a woman betrays her love for her husband to others; she is far more likely to affect indifference when she thinks she is not fully appreciated; if her husband is satisfied, she is apt to be defiant of outward opinion, especially of that of his female relatives, until she grows to a reasoning age—an age much later of attainment than might be supposed where the imagination and temperament are ardent and impulsive, and cloud thought and hinder reflective power from growth.

It is very easy, even for a calm, matter-of-fact woman, to theorise and live in imaginary life. Rachel Fraser had never seriously thought of marrying her cousin, or of allowing her affection for him to grow into love, and yet she was perpetually measuring Ursula by her standard of how she would have acted if Michael had been her husband. Just as if, when husbands and wives love each other, they do not know what each requires better than any outsider can know for them. There are cases where even that which is silliness or flightiness in a woman to all others is a special merit to the husband. In love there is one thing certain, be it truth or glamour, the person who loves never sees the beloved object with the calm eyes of mere friendship; and who is to judge? It may be that the very power of love transforms, and that the man or woman we think we know so well, and value so little, is some one else when transfigured in the warm light of a husband's or a wife's love.

But Miss Fraser is partly right, as yet Ursula does not love her husband truly and really—spite of the passionate longing at her heart to see him at home again, a longing which Miss Fraser, if she could be brought to believe in it, would probably call mere selfishness.

"If Michael were quite happy with her, he would not have left her," she argues, as she unrolls her long border of worsted-work. "It seems strange for newly-married people to part so soon, and still more strange for the wife to be laughing, as Ursula laughs."

Ursula got up from her chair and came to look at the work, but she could not admire it—heavy roses and buds, relieved by a hard, black "grounding;" the girl's keen sense of beauty pervaded all she looked at, and it was jarred now.

"What sympathy can I ever find with her? She amuses herself in creating ugliness, and ugliness is loathsome; it is like disease: I abhor it."

Miss Fraser noticed her silence, and she smiled.

"You don't like my work; but it is for use, and it is very durable, I think. I mean it to border a green table-cover."

"You are going to border a green table-cover with black and pink!" said Ursula, her voice rising in a little shriek of wonder; and then she held her peace, fearful of giving offence.

The day passed over, not gaily, but still without any strongly manifested difference of opinion. Ursula longed for it to be over. She should not hear from Michael till Friday evening, and it seemed so far off to her impatience. She had never had a letter from

him, and it would be such a new pleasure. This was alloyed by the prospect of writing an answer. She had had little opportunity of writing letters, and her efforts had been stiff and formal. She felt that she could write if she let herself go, but false shame made her shy. She might write something ridiculous, and then Michael would think her silly. At last she resolved not to think about it, and she fell asleep, telling herself that his letter would serve her for an inspiration, and that her answer would flow from it. She made an effort at early rising, and was ready at the breakfast-table before Miss Fraser appeared.

It is much easier to kiss a person for whom we have little affection over night than next morning. In the cool calm daylight, with our senses still lulled by their period of rest, there is no glow or impulse to help, not even the cheering prospect of separation, which is apt to make us tolerant of many shortcomings. Ursula felt that Miss Fraser's coldness was oppressive.

"You slept well, I hope," the girl said, trying to remember Aunt Sophy's ways with a visitor.

"As well as I ever do in a strange bed," Rachel said, coldly, and then she went to breakfast in a business-like way.

The postman's ring, and in came the letters. A packet for Michael, and one for Mrs. Helder, with a foreign post-mark.

Ursula tore open the envelope; she looked so gay and glad that Rachel's disapprobation increased. It seemed to Miss Fraser that former family ties should sink into insignificance with a married woman. She went on eating her breakfast; she guessed that the letter was from Ursula's father or aunt, but she did not inquire for them. Miss Fraser was a sensible woman; she had no sensitive follies about her, and therefore she could not stoop to the small considerations and courtesies necessary to more feminine natures. If the strong-minded would sometimes remember that bricks cannot hold together without mortar, it might be happier for those among whom they live and more blessed to themselves.

An exclamation from Ursula made her look up. There was no joy or gladness in the bright face. Ursula looked white and frightened, but she did not speak after that brief cry.

"What is it, my dear?" Rachel thought the girl felt suddenly ill; the kindness in her voice set Ursula's tears flowing; they had almost choked her. Still she did not cry violently, and Rachel felt compassionate.

"My dear aunt is ill, struck down with paralysis, listen." She began to read the letter aloud.

"My dear child,—Come to me at once. Sophy was seized yesterday with what I fear is either apoplexy or paralysis; she lies hopelessly ill. She revived once, and asked for you, but she has not spoken since, and the doctor gives me little hope. I am sure Michael will spare you. Do not lose an instant if you wish to see her again."

Ursula kissed the letter passionately as she ended; she was full of bitter remorse. She had written so seldom to the two who longed for her presence.

Miss Fraser raised her well-shaped head.

"Your father is unnerved by your aunt's illness, and he does not know that Michael is away."

"Yes. I think so; Michael did some business for him quite lately, and I know he wrote to papa about it the day before he went away. He would certainly speak of his journey."

"I think it is very uncertain; but, my dear, if Michael were here, I am sure he would not let you go alone. I wish I could offer to go with you, but I cannot."

"Thank you; I prefer to go alone." Ursula spoke proudly; the want of sympathy in Miss Fraser's manner chilled her.

"I dare say I can start this afternoon." She clasped her fingers nervously, trying to collect her scattered wits.

"This afternoon! you cannot possibly think, Ursula, of leaving your husband's house without his consent. What would he say to me if I were to suffer you to commit such an imprudence?"

Miss Fraser spoke sharply and sternly, as if she were talking to a self-willed child. It seemed to her that Ursula must be crazy. She did not look at the girl; but her first words were startling, and the erect figure dilating with passion, the dark eyes flashing out in contrast with the pale delicate face, startled Miss Fraser still more.

"Leave me to understand my husband; he is not a tyrant, and he did not place you here as my gaoler. And if he had, do you think such unjust restraint would hold me here an instant when my father bids me go to him? My duty is as plain as possible, and Michael would see it as I do; but there is no question about Michael. I could not get an answer from him under three days, and my father says, 'Come at once.' I shall go to-day."

Miss Fraser is armed with the full panoply of her dignity; she has never been so spoken to, and she feels her pulses quicken, and a flush rising on her hard handsome face.

"You seem to forget," she says very stiffly—so stiffly that each word hardens the girl's heart against her—"that when a woman marries, the obedience due to parents is transferred to a husband, at any rate it must always have his sanction."

"I cannot listen to you," says Ursula. "No one with any feeling could talk as you are talking. You cannot understand. Don't say any more. I will tell Michael it was all my doing; but now I must go."

She gathered up her letter and darted off to her bedroom. She did not even ring for her maid. She went into her husband's study, took the foreign "Bradshaw," out of which she had helped him to plan her father's journey, and as calmly as she was able settled her own. She had plenty of money. Michael had signed several cheques for her, and had left money besides, to save her all inconvenience during his absence.

By the time she joined Miss Fraser at luncheon, her preparations were made. She was in a glow of excitement at the prospect of her journey, and her anger had evaporated.

"I am sorry you disapprove of my journey," she says quietly, "but it cannot be helped. I shall write to Michael directly I reach Rome. It would only give him unnecessary anxiety to know that I had started."

"I have written to your husband," Miss Fraser says; "at least if you persist in doing that which I know he will disapprove, you must take your maid. It is not even proper, much less right, for a young woman of your age to travel alone."

Ursula laughs. The word "proper" is a trumpet-call to her contradictoriness.

"I have always heard that a married woman may do what she likes abroad," she says contemptuously,

"and I do not care about being what is called proper. I shall certainly travel alone."

"If it were not for the thought of dear darling Aunt Sophy lying there so helplessly," she says, as she goes up-stairs to put on her travelling gear, "I would tell that woman plainly of her rudeness. She quite forgets who she is when she talks to me in my own house in that way. Obedience, indeed! wives are not slaves, and no one shall ever hinder me from obeying my father."

THE AMERICAN PACIFIC RAILWAY.

NOT long ago the writer had a run across the North American continent by the line which spans it from New York to San Francisco. An English traveller could go the whole way by steam in, perhaps, sixteen or seventeen days from Liverpool to California. This is about the third of the circle there around the globe. The same journey not many years ago would have taken a twelvemonth.

Americans do nothing by halves. They are go-ahead in the best sense. They invent the quickest, and apply an invention the readiest. They do not fear to encounter the most formidable undertakings. They raise a million men to put down a gigantic rebellion, and they pay off a war debt at the rate of thirty million pounds a year. They resolved to stretch the iron rail across the great American desert, and over two vast piles of mountains. They thought, and they decided; they wrought, and they finished.

The Government, representing both labour and capital, and acting for the welfare of the mass who elect, agreed to give land on each side of the projected Pacific Railway to help the movement. Engineering difficulties were overcome, and a hearty co-operation secured a rapid triumph. Workmen in America have not the slow march and tire-me-not movement of some of their brethren elsewhere. They step out well, deal a quick and heavy stroke, and keep their wits about them at their work. The railway men won the good word of their employers. They were paid well, though they held that no reason for working less. All hands kept at it almost fiercely. Was the work not a national one? And did not every citizen profit by a national success? How they did run along with those rails upon the prairies! Thousands of men were first carried forward. Some levelled the track. The train came on with sleepers and rails, advancing as the line extended, and picking up and carrying onward the active labourers. Ten and twelve miles have been the reward of a single day's toil, and to as great a distance has the next day's camp been advanced.

Then, when the rails were laid, and the last and silver rivet had to be driven, a grand demonstration was made. Feasts were prepared, speeches were prepared, and cannon were prepared; the prayer of blessing being asked, the telegraph bore the intelligence of the "Amen" to the other end. The final blow of the hammer was given. The artillery fired simultaneously on the shores of both oceans; shouts of joy were raised along the iron road; visions of coming greatness swelled the breasts of politicians; hopes of good for poor and sorrowing ones moistened the eyes of the philanthropists; desires for the spread of truth, and the arching of the continent with piety, burst forth from many prayerful ones.

It was a glorious day, that 24th of May, 1870, when the "Pullman's Hotel Express" began its publication. It was worthy of being a part of the ceremonies. It was fitting that the birthday of the Queen of intellectual Britain should be kept up in the land of young Britain, and chronicled in newspaper America by the first paper composed, printed, and published on a railway train. The "leader" was dated "Niagara Falls, May 24th, 1870;" it was headed, "All aboard for San Francisco!" Spread-eagleism was pardonable indeed on such an occasion. It was enough to make an editor lose his head. Thus did he write in this "Trains' Continental Daily":—

"The 'Yes' of Helen to Paris was the cause of a ten years' war; the 'Up, Guards, and at them!' of Wellington, annihilated an empire; and these words, 'All aboard for San Francisco!' meant that the most magnificent train produced by American art was starting on its passage over the longest line of rails operated by any nation."

Then, when in eight days the 3,400 miles were traversed, another celebration took place. The West stood ready to greet the East. The rails had connected the opposite points of land, and cordial hand-clasping united hearts. The poetical ceremony followed. Water bottled from the Atlantic Ocean was poured upon the bosom of the Pacific. The two seas were mystically blended. The civilisation of New York and London was to be brought in contact with the semi-barbarism of Japan and China. San Francisco, once deemed the most inaccessible of places, became at once the centre between East and West.

"But what a dreadful journey!" says the reader.

Certainly, to be boxed up on either a hot day or a cold one, in an English train for twelve hours, is a trial. But let us see how they manage on a journey extending eight or nine days without need of stopping, except for feeding the engine.

The cars are not divided into compartments, as ours, and have a passage down the centre. The seats are reversible, so that a snug party of four can sit *vis-à-vis* if they please, or two can preserve their company without facial neighbours. The cars are usually lofty, well lighted, and provided with means of ventilation. The ornamentation displays a taste never indulged in by English companies, and the comfort of passengers is consulted to a degree not comprehended by English directors. Outside is a small platform, securely railed in, and connected with the platform of cars before and behind, so that a person may walk from the engine along the whole train under cover. Travellers are thus not obliged to sit in one cramped position for a week.

At one end of each car is a vessel of fresh drinking water, or itinerant drinking fountains. Other arrangements correspond, so that if one provide himself with food, he would have no occasion to descend from his carriage for the whole distance. The iron stove is an important winter addition to each car; the fuel is wood, and the heat considerable.

The advantage of a thoroughfare through the train is appreciated by young traders. All through the day, while in the settled districts, visits are paid by merchants dealing in cigars, books, newspapers, oranges, cakes, puzzles, etc., etc. One fellow gave much amusement to the writer. He would come along with a basket of oranges, crying out, "Does anybody want any oranges?" Then he would follow with literature, exclaiming, "Does anybody want

any books?" A third tramp would exhibit another variety of his stock-in-trade, and so on.

It is sometimes hastily said that in that land of freedom and equality one class of passengers only can be found—Jack, being as good as his master, sits with his master. But the fact is that there are four classes on the railway. The writer took a first-class ticket at San Francisco, and subsequently found he had to pay extra for a sleep in the Pullman's Palace Car. The first is a second-class; the second is, therefore, but a third. The emigrants' waggons, rude enough, but sufficiently comfortable, form the fourth class.

The so-called first car differs only from the so-called second in extra soft cushions, and a stroke more of paint. But the latter is subjected to the annoyance of smoking, from which the other is freed. When gentlemen decline the cold air of the platform, they may regale the poorer folk of the second-class with the fragrance of their pipes. Delicate women might object, but why should they be so poor as to travel second? Poverty is punished everywhere, as anti-smokers sometimes find here in our third-class carriages.

It is such a comfort to miss the horrid scream of our English engine! Instead of that shriek, there is quite a musical and pleasing note. The American thus evidences more of the poetical element than his European cousin. In the farthest west, and in the land of the Mormons especially, the train gives notice of its approach by the ringing of a bell fixed on the engine. The effect of this sweetly sonorous bell is most grateful to the ear. The English visitor is told that he must have been used to tyranny, or he would never endure his railway screech.

Stations are not so plentiful amidst the wastes of the West as in the throng of city traffic. Here and there meals may be procured at the inevitable dollar rate. Water, tea, and coffee are the prevailing drinks. Those who want something stronger, take it short—as rum or brandy. Wine and beer are not much patronised, excepting the first in California, and the last among the Germans of Iowa and Pennsylvania. The meat has not the flavour of English beef and mutton. Pork is cheap enough, and tough enough. Pigs and people being equal in number over there, pork need be cheap; though the fattening on maize makes the flesh hard.

It is not easy to study "Bradshaw" on the way. This railway guide is a huge volume; it is over ten inches long by seven broad. It gives a list of about nine thousand stations! In map information its excellence is unrivalled. An old one gives fifty-two maps, full-page size; eleven, of half-page; three, of double-page; one, eighteen inches by fifteen; and a general map, three feet by two.

The system of checking baggage is one of great ingenuity. It is of enormous comfort to travellers to have no care about the safety of their luggage; they need not bother about it for the three thousand miles. At the station before the terminus a person comes along the cars to receive orders, so that passengers proceed with light weight and easy mind to their hotel or their homes, confident that their boxes will reach there almost as soon as themselves.

The road is far from being an unpleasant one. The steepest gradient is that of 116 feet in a mile, and the shortest radius of a described curve is 600 feet. The middle portion, between Salt Lake country and the Missouri River, is called the Union

Pacific Line, and is inferior in comfort of travelling to that of the Western or Central Pacific Railroad. The C. P., as it is called, has excellent carriages, civil officers, and satisfactory arrangements. It is just about a thousand miles long, running from San Francisco to Ogden of the Mormons. The fires are raised chiefly from junks of pine wood, there being plenty of timber in California. Wood-stations exist even in the most desolate localities, where a resident would require a Mark Tapley philosophy. As by far the greater part of the route is along a succession of level terraces, the curves are found mainly in the gorges of the Alleghanies, and in the Sierra Nevada of California. The Rocky Mountains are a delusion; the traveller never recognises them. He is mounting up gradually, and sees no towering peaks and ranges, so that he is unconscious of the fact that his passage of the Rocky Mountains has occupied a third of his time on the journey. This is because the Rocky region is a broad plateau of hundreds of miles, and not a ridge of lofty hills.

Travellers who can afford it take up their quarters in Pullman's celebrated Palace Cars. These are lofty and magnificent carriages, as superior to our first as the first is to our third. A gentleman black is in charge of each. Negroes, big strong fellows as they are, have a natural distaste to hard work, and accept the positions of house servants, light porters, or other genteel employments. The one in charge of Pullman's car keeps everything in order and waits upon the passengers. At nightfall he arranges the ingeniously-contrived bedsteads. The reversible seats drawn out become one couch, while from the roof is let down a framework over this for a second berth. A curtain falls to the floor, enclosing the two. In the morning the traveller finds his boots blacked and the lavatory prepared.

However indelicate the sleeping accommodation may seem to the fastidious, American ladies do not scruple to avail themselves of a comfortable recline and warm quarters at night. A few, perchance, may fully unrobe, though hardly expected to do so. As a rule, the gentlemen take the lower compartments, and are expected to turn out before the descent of the fair one, under shade of the curtain. Thirty persons find sleeping accommodation in each car.

In the narrative of the very first journey we read that the "Arlington" and the "Revere" are hotel cars, with kitchen, cooking range, china closets, dining rooms, and sleeping berths. The "St. Charles" and the "St. Cloud," styled commissary cars, have each, besides their kitchens, seats at table for twenty-two and berths for twenty persons, while the "Palmyra" and the "Marquette" are drawing-room cars, with "rich and beautiful" carpets, curtains, and all that is most ravishing in upholstery and cabinet-work! There are two well-stocked libraries "replete with choice works of fiction, history, and poetry," and, to sum up all, two Burdett organs, "complete in every detail of stops, pedals, and double banks of keys."

Pullman's Hotel Car is a restaurant, where a dinner is served up in splendid style, and a liberal list of viands open for selection. Pullman is altogether a great institution in America. That gentleman is now in Europe, arranging for Pullman Palace Cars between Paris and Vienna, preparatory to the May Exhibition in Austria.

The railway system of the States is wonderful. The first line was made in 1830. There were 560 miles

opened in 1847, and 18,000 in 1857. In 1861 about 7,000 miles were made. Grants of land have been the Government aids to private railway enterprise. The opening up of a country is often preparatory to settlement. The Burlington Railway Company have induced thousands of our country-people to buy their lands in Nebraska and Iowa.

Two great objections are raised against the present Pacific line. For a third of the way it passes through a very sterile region, and is carried up into the cold cloudland of over eight thousand feet above the sea. Another railway is projected along the 35th degree of latitude, mounting considerably less, and passing through a much finer country, particularly the delightful olive and orange home of South Mormondom. A third is talked about for a run by Texas. But the North Pacific Railway is by far the most promising. It will be shorter in length, lower in altitude, easier in progress. It will pass through a wonderful farming district, waiting for emigrants, and will cross the Dominion of Canada from Lake Superior to Columbia, of the renowned San Juan. There will be plenty of water, good soil, lots of timber, much shelter, no chance of snow blockades, and but two hills to mount of five thousand feet. Better than all, it will cross our own colonial territory all the way.

The rise on the American line is interesting to note. The eastern railways, through Pennsylvania and Iowa, have been long established. Commencing, then, at the Mississippi, the line has an elevation of 700 feet above the sea. At Omaha, on the Missouri, it is 1,000. It springs up along the Platte of Nebraska, 2,000, 3,000, 4,000, and then 5,000. At Cheyenne, west of Nebraska, 6,040 is reached; but at the culminating portion of the Rocky plateau, Sherman station, it is 8,250! A descent commences for the Pacific. At the North Platte crossing we have 6,840 feet. The road continues high through the silver land of Nevada, and at the junction of that State with Mormon Utah the elevation is 7,540. At Ogden, where the Salt Lake City railway joins, the country is but 4,500 feet, and is rich in farms. There is another spring toward Echo, the coal region, which is 6,000. The dreary desert of Humboldt Valley ranks at 4,000. The pass in the Sierra Nevada is entered at 7,040. There we are but 250 miles from San Francisco on the sea, so that the fall thence is a very rapid one. The road drops a thousand feet in one hour's travelling.

After leaving the prosaic region of towns, farms, oil-mills, and saw-mills, and crossing that former boundary of all civilisation, the Missouri, the Pacific Railway is fairly under weigh. On one side the stream is Council Bluffs, where Indian tribes assembled for deliberations, and on the other is the prosperous settlement of Omaha. Only a very few years old, with its streets unmade, its citizens have raised a magnificent high school, at a cost of £40,000. The men of the West mean, they say, to have a great country, and the chief element of greatness is held to be free and general education. Nebraska, one of the newest States, and far from expecting to be a rich one, has a noble system of public instruction. The Pacific line is throwing farmers upon its alluvial flats. As the country rises, water becomes scarce, timber is absolutely nowhere, and the soil is heartless. For hundreds of miles together the country is practically a desert. But though the farmer cannot live, the miner can. For five hundred miles the new railway traverses a coal district that must one day

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draw a population, though now a dreary waste. But at Cheyenne, up 6,000 feet in the snow, three or four thousand people are gathered, as it is the junction with the great line running southward and eastward through Kansas. Chicago is 900 miles from New York, Omaha is 500 from Chicago, and Cheyenne is 500 from Omaha, though still 1,500 from San Francisco.

Terrible stories are told of this and other early railway centres. The moving camp of old went by the appellation of "hell on wheels." Profanity, drunkenness, gambling, licentiousness, and violence had their reign where no law existed, and where a gathering of wild spirits was to be expected. Such was the terror of that day that no justice could be obtained at any court of men. In sheer despair, a jury of women are empanelled. All honour to the sex, and a standing argument for women's rights, honest verdicts were obtained from the weaker, but really the stronger, sex at Cheyenne.

From Cheyenne to Echo we pass over a heartless, bare, and thirsty land. That is the region of snow-blockades, so fearful to the contemplation of winter travellers. Here there are snow fences to keep back the drift from the rail, and here are the arching galleries, or snow sheds. The snow has a habit in hilly districts of making journeys on its own account. Certain favourite playgrounds of these avalanches, routes of fall, are covered in for the safety of passengers. The great Napoleon constructed them of stone, in the Alps; those on the Pacific road are of wood.

Just before reaching Ogden, by the Great Salt Lake, and a little past Echo, the Thousand Mile Tree is seen in its loneliness on a mountain. A board, swinging from a branch, bears the name of this hermit tree. Ogden itself is the second capital of Mormon Utah, and is an orderly and a prosperous town. The railway thence to the Salt Lake City is thirty-five miles long, and has the merit of being made by the people of the locality, and without a penny of borrowed money.

The Salt Lake is the Dead Sea of America. A river Jordan flows into it, as in Palestine, after passing through a fresh-water lake, like the Sea of Galilee. But, unlike Jordan of the Jews, the river is utilised, and a vast extent of land being well irrigated by the Mormons, a lofty desert has become a fruitful garden. When the railway is continued lower still to the south of the city, gold and silver, grapes and melons, silk and cotton, rice and sugar, will be brought from Mormondom.

The Pacific Railway is the property of California, westward of Ogden. The city is 1,020 miles west of Omaha, and nearly as much east of San Francisco. While Utah Lake corresponds somewhat in size to the Lake of Gennesareth, the Utah Great Salt Lake is four times the breadth and twice the length of the Dead Sea. It is a death region of stillness. When the writer rounded that basin, which lay in the bosom of barren rocks, the desolation appeared worse than the wildest tales of Palestine sterility.

But now for the next five hundred miles our way is over the so-called Desert of California, though since included within the boundaries of the Silver State of Nevada. This great sandy basin, although 4,000 feet high, is a depression. The waves of the sea have not long forsaken this realm of sand, of rock, and of sage scrub. This coarse plant is able to live with the least possible amount of moisture, for it seldom rains

in Nevada and Utah. The American desert has not the oases of the African Sahara, though the Humboldt River courses through it for 300 miles. As water is not easily obtainable away from its bank, the railway keeps near the stream.

North and south of the line, through the desert, some very rich gold, silver, copper, lead, and tin mines have been discovered among the mountains rising above the basin. Dreadful as is that dry and fruitless realm, numbers are flocking hither to dig out its wealth, though for months together the snows forbid their work. Water is brought up by sinkings for metals, and streams are being raised for cultivating deserts.

The desert once passed, the romance of the trip commences. We begin to ascend the glorious Sierra Nevada, or snowy range, one of the most picturesque in the world, with peaks a dozen thousand feet in elevation. The rocks are granite, slate, limestone, sandstone, basalts, and porphyries, with much metamorphic demonstration. Magnificent forests and falls add to the beauty of this lovely region, while the clear atmosphere and bright skies cheer the tourist.

The Palisades form an interesting sight. The fences are two enormous rocks, rearing 1,500 feet over the train, and separated by a ravine of the American river about a hundred yards wide. It fills one with awe and apprehension to stand upon the platform and gaze upward to such tremendous precipices. Though not so awful-looking, the passage along trestle-bridges is sufficiently dangerous. A delightful relief is experienced when entering Pleasant Valley, meandering, as it often does, amidst the clouds. About the last snow gallery is left when 240 miles from the Bay of San Francisco. Cape Horn is one of the sights of the road. It is a promontory, on a sharp turn of the line, round a steep mountain, on the Pacific slope of the Sierra. We are then but 3,500 feet above the sea, the height of Snowdon or Ben Lomond. The train stays a few moments for the entertainment of passengers. These look out and down a steep precipice, 1,400 feet to the river below. It is a sublime spectacle, not easily to be forgotten, even when seen, as by the writer, by the intense starlight of a frosty night. Maggie's Valley has a mournful interest. It is associated with a deed of blood by those much-vaunted heroes of romances, the Indians. More cruel than wolves, more treacherous than any brutes, they used to waylay the emigrants in the pre-railroad age. Maggie and her sister fought for their lives, but were captured when the men of their party were slain. They were tortured to death, and their mangled carcasses were consumed in the flames.

Life is far from plentiful in the vast American deserts. For over a thousand miles one sees scarcely a single bird, unless a hermit eagle, and he has no tree to light upon. The buffaloes are driven farther north and south of the line. Parties in the train do get a shot at herds of deer, or a skulking wolf. The antelopes, as they timidly fly before the intruders, are so beautiful and gentle-looking, that it is hard to realise the pleasure of railway sportsmen leaving these harmless creatures to writhe in agony, and die a lingering death on the frozen plateau.

The prairie-dog, that merry compound of dog, rabbit, and pig, is ever attractive to the traveller. He digs a hole in the sand for his quarters, and surveys the world at his doorway, while unceasingly

wagging his little tail. He lives with many hundreds about, getting a meal from the sage plant. He is a most hospitable fellow, having a warm corner for a sort of small owl, called the strix, and even sheltering a harmless snake. Through the winter the whole sleep comfortably together. The doorway is closed when the snow comes, and a gracious Providence enables the creatures to slumber on till spring.

"And what people do you meet with?" inquires an untravelled reader.

The genus American, in all its wonderful variety of feature and character. The delicate eastern lady, the thin-nosed Yankee proper, the stalwart Western settler, the healthy Californian, are all encountered. A rough class and a refined one, a mercantile and a farming one, the herd-driver and the miner, may all be found *on board* a train. The writer met with the greatest profanity of language, and the most courtly of tones. He was addressed by men who carried revolvers in their belts, and eternal cursing on their tongues; but he was, also, favoured with the company of those whose hearts beat true to all humanity, and who humbly sought to serve their God. The genuine American, of the grand old Puritan stamp, though still ruling by virtue of mental and moral supremacy, is clearly dying out. His place is being filled by the mixed blood of all European nationalities, but notably by Irish and Germans. Between the two last an almost inconceivable prejudice exists. The German does not approve of the Romish attempt to destroy the liberty of the States, in subjection to the dictum of an infallible Pope.

The negro is seen on the line. He is an excellent waiter, and a good polisher of boots. He is high in his aspirations, and has a contempt for vulgar whites. He was not unobtrusive before his emancipation, and has gained no modesty since that event. Between himself and the Irish labourer no love exists, for both are self-assertive; but, though bigger in bulk than Paddy, he is generally content to growl at a distance. While the American has a very small family, Sambo has a very large one; and, while the former frets and works himself early off the stage, the latter long retains his white locks and merry face, because he laughs more, and works and worries less.

The wild Indian resented the approach of the iron-road across the hunting-grounds of his fathers. More than once he boldly charged the train itself, and murdered officers and passengers. Hundreds of the railway pioneers lost their lives from these marauding Indians. General Sherman spared them no more than he did the Confederates in his march through Georgia. The dashing Indian is now a lazy skulker round the fire of the white man. His squaw and himself, with, perhaps, a papoose, may be seen at stations on the route. The dirt of their skins, the paint on their faces, and the squalor of their life, are not romantic features. But they are much reduced in numbers, they have but few children, they drink fiercely, and they will soon be missed on the Pacific line of railroad.

John Chinaman is the coming man of Western America. You encounter him fishing in the bay, cooking in the house, woodcutting in the mountains, trading in the streets, toiling in the manufactory, delving in the mines, and working on the rail. His yellow face, his oblique eye, his slight frame, his pleasant smile, turn up in all quarters. There are plenty of his folks at home, and so he goes abroad. A world of prejudice assailed him, but he is fast living

it down. As the maker of the Central Pacific Railway, and as the established servant of the company, he has especial claims upon the tourist. Though paid but two-thirds the wages of the European, he works more steadily, gives less trouble, lives well, and saves money. Ready at any call, fit for any climate, adapted to any emergency, he is just the fellow to put inside of those snug little huts on the desolate way, and call forth when a train is run off the track or wants digging out of the snow. His patience and endurance are as much appreciated as his skill and fidelity. If John would only import a few more of those small-footed women from the Flowery Land, he would be better liked, and his pleasant garden plots would brighten up the wilderness along the Pacific line.

THE ANNUAL MIGRATION OF CHILDREN FROM THE TYROL.

IN the month of March every year troops of children migrate from the poorest of the Tyrolese valleys to the plains of Germany. The object of their journey is to find employment during the summer months, and thus lighten the burden of their parents in providing daily food. The parents of a village, or of two or three villages, combine to pay the expenses of a trusty chief, whom they select as the best and safest conductor, to take the children to their place of destination. A German traveller who met one of these migrating troops on the way down from the mountains, has given a graphic account of what he saw and heard, the substance of which we translate from the Leipsic paper "Daheim."

The children were going to Ravensburg, in Württemberg. Here, on St. Joseph's day, March 19th, was held the great market, to which the farmers repaired from far and near, in order to choose out from among the little strangers those who were likely to be useful to them.

When we met, the leader, a great, strong man, saluted me, and remarked that the smooth icy path was rather tiring for the children. In fact, they looked at me quite piteously as they pressed around their leader, clad in their thin clothes, and carrying their little sacks full of burnt meal. The piercing wind which blew over the pass made this a very unsuitable resting-place for the children. As I was bound for Dalaas, the first place on the other side of the pass, I joined myself to the troop, hoping to be compensated by pleasant conversation for the delay which such a large company would occasion. The leader, meanwhile, gave me some information respecting the destination of his charge.

"What will you do with the youngest whom you have with you? What work can they do?" I asked first, while we descended the other side of the mountain, and I noticed that many of those of whom I spoke remained farther and farther behind.

"You see, sir, there are many kinds of work. When we reach Ravensburg, we shall station ourselves on market-day before the Crown Inn, and perhaps watch the bright-coloured tiles on the tower, because many of us wish to drive other thoughts out of our heads. Then the farmers will come, and will know at a glance what each child is worth. Those behind, for example"—he pointed to several of the smallest children, whose faces looked bluest—"will be brought

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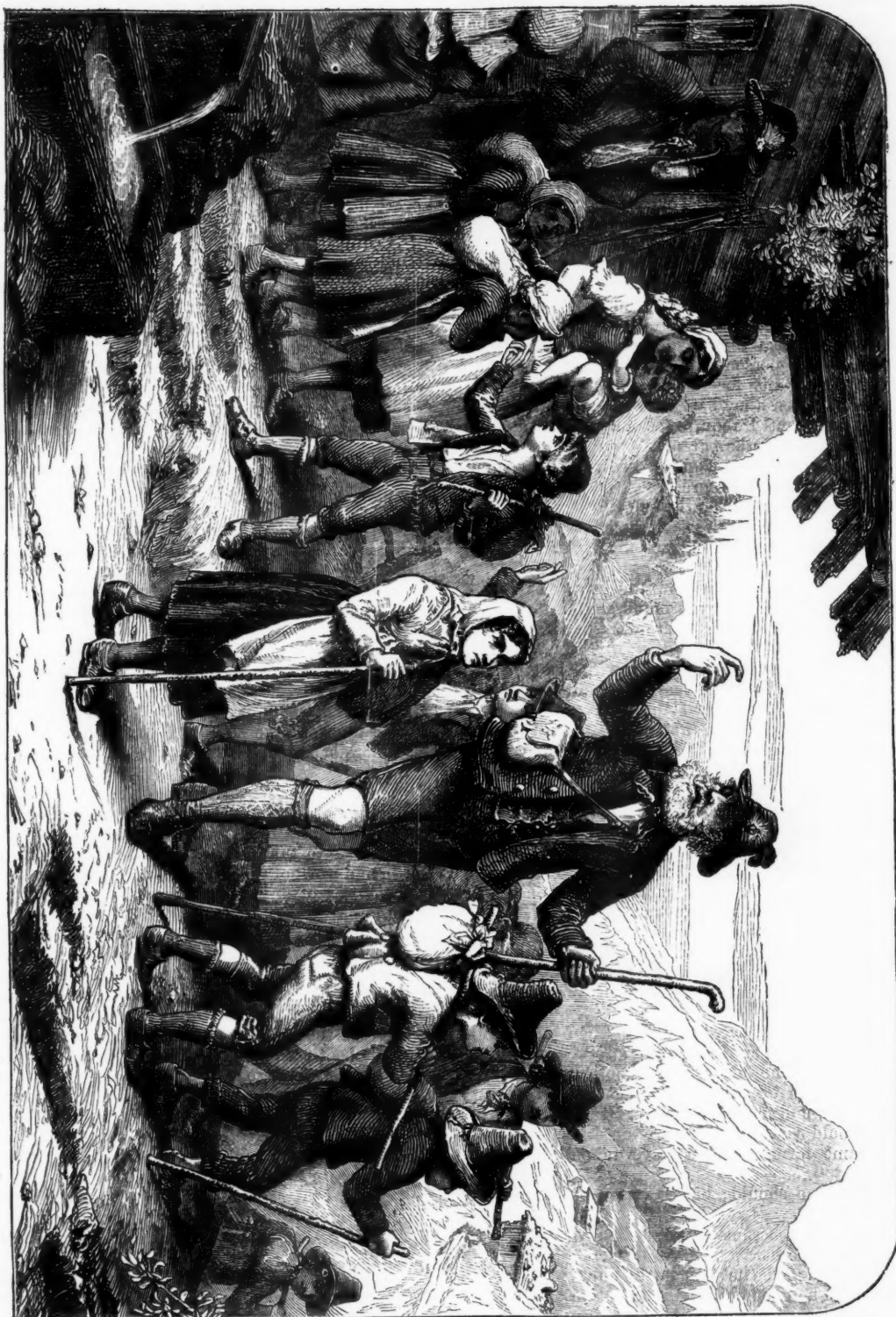
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STARTING FOR THE PLAINS.



out at once and asked if they can keep geese. But others, like that stout boy with light hair, will be put to work for which more capacity is needed, probably to keep a herd of pigs. The middle-sized children will have to do all kinds of odd jobs."

"What does that mean?" I asked.

"That means that they must walk by the oxen, attend to the harness, and so on, and watch the cattle at pasture."

"Is it true," I continued, "that it is like a slave market? I have read and heard that the children are pulled about, and felt over to prove their strength, like those pictures which we used to see of the blacks when slaves were kept in America."

"No, indeed," answered the man; "the Swabian peasants are much too kind-hearted to treat their children like cattle. They go and look at the boys and girls, and can easily tell who will be suitable for the work which they wish them to do. Then they refer to the person who has brought them, as, for example, to me, for all these children are in my charge. Then they bargain with me, and ask how much payment I require. I have settled all that beforehand with the parents."

"And what does a child receive for the summer which it spends out there?"

Instead of answering, he called a boy of ten years old, with a bold, fearless expression, who held himself up stiffly, and threw back his neck like a soldier in the ranks.

"Now, Joos, tell us how much you earned last year, and say whether you found anything amiss, and were pleased with the treatment you received from the farmer."

"Well," answered the boy, with an almost defiant aspect, "I worked last year, and remained till Martinmas (November 11th) with my master. I received twenty gulden (about £1 13s.), and I never found anything amiss. The farmer was kind, and I was much better off than at home."

"Who took you out last year?"

"My mother," answered Joos, undauntedly. "There were two more of us, younger than I, who are now going to Bavaria, because a distant relation of my mother has taken a farm there. We were very poor when we set out. My mother had only thirty kreutzers, but yet we were not afraid. We did as we are doing now. We stayed the night at the farmers' houses, and in all the places through which we passed we received something to eat. We were twelve days on the road between Vintschgau and Swabia."

"Did you not cry," said I, "when your mother parted from you at Ravensburg?"

"Oh, no," he answered; "mother did not cry, either. Each of us got a good master, who gave us a sausage, and mother a florin."

"Would you not have preferred," said I, "that the same farmer should have taken all three of you?"

"Yes, we should; but I was quite happy as it was."

"But what became of you when you had parted from your mother?"

"She begged the farmers to be kind to us, and told us to be good children, and not to forget all the good advice which our pastor had given us before we set out."

"Did you remain that day in Ravensburg?"

"No. The farmer had his horse and cart with

him, and we left that morning. He promised me on the road that I should not be badly off with him if I would do my work properly. In the evening we reached his farm on the borders of Baden. The next morning I was at work with the oxen."

"Were you allowed to rest on Sunday?"

"Yes. I had nothing to do but to feed the cattle and to go to school. I learnt to feed cattle then."

"And you did not suffer want?"

"We were never so well off at home as there. We had knöpfu (a kind of meal cooked with butter) every day, and meat twice a week."

"Does it never happen that any of you run away home again from the farm?"

"Oh, that may be, if any of us fall into the hands of a bad farmer, and are unkindly treated; and those who suffer from home-sickness sometimes run away."

"But how can they manage the long journey without any money in their pockets?"

"Oh," cried Joos, "every farmer will allow them a meal and let them sleep in his house."

At this avowal I could not refrain from a feeling of sympathy. It is very painful to imagine a poor child, without any resources or knowledge of the way, tormented by longings for his miserable hut, and making his way over the high mountain pass, anxiously asking in every house where a piece of bread is given him, how far it may yet be to the frontier of Graubund, or the sources of the Esch.

"But," said I, again, "supposing there are too many of you at the market, would not some be obliged to return, because no farmer would take them?"

"Certainly not," answered the boy Joos, while he laughed at me with his blue eyes, as much as to say, "What a silly question!" "Last year there were six hundred of us at the market, and if there had been a thousand we should all have been engaged. The more of us the better, as far as the farmers are concerned."

"You see, sir," interrupted the leader of the children, "the people down there are ten times as rich as we are in the Tyrol. It is the cheapest thing they can do to take one of our children for keeping cattle and work of that kind. If they wished to use the services of any of their own people, they would have to pay much higher wages; for money is worth much less to them than to us in the Tyrol. Then these children are not particular as to their food, for what do they get at home? A little Indian corn, when prices are high. You can form some idea of the poverty in the region where the boy Joos lives, when I tell you that the snow sometimes comes into the curate's bed. The people down there will not allow their children to go into a strange house. They would have to take servants for all this easy work, and one servant would cost more than three of our children."

"Did you understand the Baden people at once?" I asked again of Joos.

"Oh! I can talk with them now, as well as with the boys in my own village." He spoke with such a thorough Baden accent, that I smiled in astonishment.

"I speak Baden dialect in summer, and Tyrolese in the winter," he added, in explanation.

"You should see the plump rosy cheeks which they bring home with them in the autumn," said the leader. "As a proof that they are not badly off, I will tell you of a case in my own village. There was a farmer

who had a brother in Meran. This brother wrote to the farmer to ask him to send his two boys to Meran. He promised to take charge of them and to let them want for nothing. The children were brought, and were very well treated. But they had scarcely been a fortnight in the place when they began to complain that they were not in Swabia, and one day they ran away from their own uncle's house back to the farmer in Wurtemberg, whose geese they had kept the summer before."

"What happens when your clothes are all worn out?" I asked, with a side glance at the thin and threadbare garments of the boy.

"It is agreed that the farmer should give us a suit of clothes in the autumn, when our work is over, if we have behaved well; but if the clothes which we bring with us are worn out long before, he will give us new ones at once without our having to ask for them; and we sometimes receive a suit in the autumn as well. He also gives us as much hemp refuse as we can carry, to take home with us. This our mother makes into thick jackets and trowsers. The clothes I am now wearing are made out of this hemp refuse which we took home; but certainly," he added, half ashamed, "they are not very good now. In winter, when we had to walk six miles through rain and snow to school, the threads did not become thicker."

All that the boy said pleased me, on account of its sensible tone and open unvarnished truth. If, as he afterwards confessed, he had not left his mother's house without tears, the fresh mountain air and the healthy stimulus of necessity had happily suppressed all useless fretting. I wished now to make acquaintance with one of the girls among the troop. For this object I called the next most favourable specimen, a clever-looking child of ten, and awakened her talking powers by a little present.

This child had never been in Wurtemberg before. Last summer was the first which she had spent away from home; she had then gone with other children over the mountain pass to Bavaria.

"Why do you not go the same way now?"

"Because we are better off in Swabia. The farmers will fetch us away from the market at once; we need only place ourselves in the great square before the Crown Inn at Ravensburg, or in Wangen, at the entrance of the town. But in Bavaria we had to find lodgings, and to run about for several days to one farm after another till we were tired, before we could find any one to take us."

"What do you do in winter?" I asked the boy.

"At home I learn to make shoes. There is no autumn in which I do not bring back my thirty gulden. One of my elder brothers is a bricklayer, and goes to France in the summer; and another models in plaster and stucco, and goes a long way off, where the Lutherans live. I do not know what that country is called; but when I have learned my business I shall travel only for my own trade, for I should like to bring home as much as my brothers. Father and mother could live on that for a year, and perhaps longer."

Engaged in such conversation, we at last reached Dalaas as it was getting dark. I parted from the children with emotion. They sought out different houses, where they were kindly received by the good people. The next morning, while I was still comfortably in bed, they set off again through the darkness of the icy dawn.

I have now told the reader nearly all I heard from the children. In order more fully to explain the circumstances which drove these children from their homes, I must add some facts which I heard during my wanderings in their native villages.

The families from which these children are taken belong to that part of the Tyrolese population among whom the Alemanic law prevails. They acknowledge no law of primogeniture, as do the Bavarian Tyrolese, who inhabit the eastern part of the country. Among the Bavarians the eldest child inherits the property, and the younger children, even if a tolerable income is insured them, will often invest it in the farm, take service with their brother, and remain unmarried. But in the western part of the country, the property is equally divided among all the children. Each one marries, and the rough ground of the high valleys is insufficient to supply the numerous families. The result of this subdivision of property and disproportionate growth of population is the temporary migration of the children, and the emigration of the grown people for life, to Peru and the highlands of the Cordilleras. The property is subdivided to such an extent that the domain of many proprietors is indicated on the Ordnance maps, not by lines, but by a point. At Flies, near Landeck, and at other places, we find not only that five or six families are in possession of one house, but that the rooms are divided into several compartments, each containing a family like a whole house elsewhere. It will be understood that such cases give rise to special circumstances. The prospects of sufficient food may become so bad that no one will venture to marry if he does not wish to emigrate. So, for example, a remote village in the Lech Valley is almost exclusively inhabited by bachelors and spinsters. Once upon a time forty children went to school there; but now only three or four. The household cares which are thus avoided are diminished in other places by sending the children out for part of the year to earn their own living.

I cannot close this sketch without bearing my testimony to the honest character and the domestic virtues of these poor people.

The Three Watchwords.

To watch, to wait, to work;

Ah, me! the fiery sun,

The level, treeless, barren, dew-drained fields—

I would the Work was done!

To watch, to work, to wait;

Ah, me! the tedious roar

Of wreck-strewn oceans roofed with sombre clouds—

I would the Watch was o'er!

To wait, to work, to watch;

Ah, me! Thou absent Friend,

Comest Thou quickly? So Thou saidst, "I would,"

The Waiting had an end!

My soul, be still and strong;

Sight follows *after* faith.

In all advancement of the true and good,

He cometh as He saith.

My soul, be still and strong;

Here on thy Lord's estate

No place is useless, no experience vain.

Work on; Watch on; and Wait.

ALFRED NORRIS.

HISTORICAL ECLIPSES.

BY EDWIN DUNKIN, HON. SEC. R.A.S., OF THE ROYAL OBSERVATORY, GREENWICH.

MR. HIND'S important investigation on historical eclipses, lately communicated to the "Times," forms a most valuable contribution to what we may appropriately term the science of astro-chronology. The results of his researches enable us to fix, with a great degree of certainty, the date of the occurrence of several events recorded in the writings of classic authors, which serve as epochs, or starting-points, from which the dates of other historical occurrences can be reckoned. Assuming that the data are accurate, by means of which we are able to calculate the exact time of any ancient eclipse of the sun or moon, we can readily understand that if any startling phenomenon, such as a total eclipse of the sun, had occurred of sufficient importance to be recorded in the old chronicles, either from its magnitude or from the peculiar effects produced on superstitious minds, the date of the occurrence ought, if the record be authentic, to be given by calculation. In former times, however, the calculation could not be performed with any great precision, owing to the imperfect knowledge then existing of the movements in space of the different heavenly bodies; and, consequently, to the non-existence of those necessary aids which the calculator requires for the performance of such a delicate work. Those aids consist of elaborately-formed tables of the movements of the earth and moon during their respective orbital revolutions round the sun and earth.

We may reasonably consider that very few readers of this article have ever come across a volume of lunar or planetary tables, and those who have accidentally done so, probably soon closed the book with a passing thought that it contained only a mass of unmeaning figures. But a little study of its contents would soon show the fallacy of such a hasty conclusion, for each line of figures would be found to represent accurately some one step in the process of calculation; and used properly in combination with other lines, it forms one link in the chain of computation which leads eventually to the required result. To those acquainted with the use of these and other mathematical tables, perfect order and symmetry in the arrangement are observable on every page.

We have noticed that the great drawback preventing satisfactory calculations of ancient eclipses has been the want of accurate tables of the movements of the earth and moon in space. This want was felt even at so late a period as the early part of the present century. The lunar tables which were adopted about this time, those of Burckhardt and Damoiseau, were vastly superior to their predecessors, but their imperfections were still evident when computed places were required for a very distant epoch, especially in such delicate calculations as those lately made by Mr. Hind. In more ancient times the apparent movements of the sun, moon, and planets, were known only very imperfectly; all the knowledge then obtained having been gathered partly from observations made with small and imperfect instruments, and partly from rough delineations of the relative positions of the heavenly bodies made with the naked eye. But, notwithstanding the absence of that telescopic assistance with which the modern astronomer is favoured, the scientific men of old, even so long ago

as before the Christian era, have investigated the approximate dates of some of those ancient eclipses which are included in Mr. Hind's summary.

For instance, if we take one of the most popular of these celebrated historical eclipses, that recorded by Herodotus, and which is commonly called the eclipse of Thales, we find that both the Roman philosophers Cicero and Pliny had computed its date, placing the event in the year which corresponds with B.C. 585. Although they were unable to fix the day and hour, the year is evidently correct, as it is the same as that found by the recent calculations. Later astronomers, relying too much on the imperfect lunar tables of their time, varied considerably in their results, some making the eclipse occur so early as B.C. 630. The late Mr. Baily considered that the true year was B.C. 610, but by a most careful and exhaustive investigation made in 1857 by the present Astronomer Royal, Sir G. B. Airy, using the new tables of Professor Hansen, the exact date was proved to be B.C. 585, May 28. Mr. Hind gives precisely the same result.

Seeing, then, that the accuracy of the predictions of future eclipses, and the settlement of the dates of the recorded astronomical phenomena of past ages, depend so much on the perfectness of the solar and lunar tables, great attention has been paid at the Royal Observatory, Greenwich, to the systematic observation of the daily positions of the sun and moon. Since 1750 one unbroken series of observations of the moon has been made at our national observatory, the discussion of which has given the materials necessary for the perfection of the lunar theory. Without these fundamental observations, the lunar tables of Professor Hansen, used in the computation of the Nautical Almanac, could never have been constructed, and the important investigations of Mr. Hind could never have been undertaken.

Although Professor Hansen's tables are sufficiently accurate to point out whether the historical record of an eclipse is authentic or no, and are considered the most perfect in existence, yet it would be an omission not to name another distinguished astronomer, M. Delaunay, the late director of the Observatory of Paris, who, in the opinion of competent judges, has perfected the lunar theory even more completely than Professor Hansen. The results of M. Delaunay's labours of twenty years can be found in the "Memoirs of the French Institute," filling two large volumes. He had made considerable progress in the construction of new tables representing his revised theory when the work was suddenly suspended by his melancholy death in August, 1872, caused by the upsetting of a pleasure-boat in the roads of Cherbourg.

It would be totally out of place here to attempt any explanation of the complex motion of the moon in her monthly journey round the earth. There is one term, however, which greatly affects the calculation of the position of the moon at the date of the old eclipses, depending on the secular acceleration of the mean motion of the moon in longitude. It has been found from the long series of Greenwich observations, that the lunar orbit is sensibly contracting; her mean motion in longitude being greater now than in former ages. The amount of this acceleration in one hundred

years is, however, a small quantity, and its effects on the prediction of eclipses within a limited period are practically insensible; but it is another matter when we are dealing with eclipses observed 2,500 years ago. The result of employing an erroneous coefficient of the secular acceleration, however small the error may be, would, in all ancient eclipses, considerably diminish the accuracy of the calculation, and consequently would throw an uncertainty on the point of the earth's surface over which the path of the total phase passed.

Several of the eclipses contained in Mr. Hind's summary have already been computed, using Hansen's tables, more especially the eclipses of Thales and Agathocles, and the doubtful eclipse of Xerxes. Two others which have been examined by the Astronomer Royal are not included in Mr. Hind's list. The first is known as the eclipse of Larissa, which took place on B.C. 557, May 16, and the second is recorded as occurring during the battle of Sticklestad in Norway, on August 31, 1030, when the Danish king Olaf was slain. The eclipse of Larissa is supposed to be the phenomenon alluded to by Xenophon in his "Anabasis," lib. iii., cap. iv. The substance of the account is as follows:—"When the Persians obtained the empire from the Medes, the king of the Persians besieged the city, but could not in any way take it. But a cloud covered the sun and caused it to disappear completely, to such a degree that the inhabitants withdrew, and thus the city was taken." The Astronomer Royal has expressed an opinion that it cannot be doubted that this disappearance of the sun was caused by a total eclipse, and he has found by calculation that a solar eclipse actually took place on the date given above, and that the central band of totality passed over the district known now as Turkey in Asia.

It is a curious coincidence that the moon was eclipsed on the generally received date of our Saviour's Crucifixion, A.D. 33, April 3. The phenomenon, however, could have had no influence on the miraculous darkness which overshadowed Jerusalem, "from the sixth to the ninth hour," when "the sun was darkened." Mr. Hind has found that the moon "had emerged from the earth's dark shadow a quarter of an hour before she rose at Jerusalem (6.36 p.m.), but the penumbra continued upon her disc for an hour afterwards." The penumbra visible during a lunar eclipse is exceedingly faint, being only the shadow of the earth's dark shadow, and it can scarcely be recognised by the naked eye. It certainly could have added nothing to the awful solemnity of the scene which had just taken place.

Several of the old English chronicles contain records of solar eclipses which have been verified by calculation. Mr. Hind includes most of them in his list. That which occurred on June 17th, 1443, was long known in Scotland as the *Black Hour*, while the days on which the eclipses of 1598 and 1652 took place were respectively referred to by the populace as *Black Saturday* and *Mirk Monday*.

Mr. Hind's interesting notes are as follows:—

"It is well understood that the historical eclipses, especially those of the sun, have an important bearing upon our knowledge of the elements of the moon's motion, as affording the means of testing the accuracy of those elements when carried back to very remote times. I send you a brief account of some results I have deduced in a systematic examination of these eclipses, making only such a selection there-

from as may possibly possess interest for the general reader. I shall omit any reference to the purely astronomical conclusions to which I have been led, which would be out of place in your columns, and, indeed, would extend this communication beyond reasonable limits. It may, however, be desirable to state that I have employed the last value of the secular acceleration of the moon's mean motion given by Professor Hansen, of Gotha, the author of the latest lunar tables, and have combined other important elements as determined by him with the results of M. Leverrier's tables of the sun. From recent investigations, it appears by no means improbable that we may have to rely wholly upon the ancient eclipses in fixing the true amount of acceleration in the motion of our satellite.

"I shall follow the chronological order in the subsequent remarks upon some of the better known eclipses of history. These form a part only of the phenomena I have rigorously examined upon the same system of calculation.

"1. The Nineveh Eclipse of B.C. 763, June 15.—The discovery of the record of this eclipse on one of the Nineveh tablets in the British Museum, was announced by Sir Henry Rawlinson in the 'Athenæum' of May 18, 1867, to which I refer for details of its bearing on the sacred and profane history of the period. In the actual state of our knowledge it is the *terminus a quo* for researches on the historical eclipses, and I believe I am correct in saying its value in an astronomical point of view is greater than that attaching to the famous eclipse predicted by Thales to the Ionians, as mentioned by Herodotus. The underlining of the inscription appears to indicate a phenomenon of unusual character, or that the eclipse was total in or near Nineveh. Adopting for the position of the city the longitude and latitude deduced by the Astronomer Royal for the pyramid of Nimrud, I find the calculated southern limit of totality would pass a few miles south of Nineveh, leaving a very large partial eclipse at that city. Very trifling corrections in the lunar elements employed would suffice to bring the total eclipse over it. In this longitude the duration of totality on the central line would be 4min. 20secs., the middle of the eclipse at half-past nine local time.

"2. The Eclipse of B.C. 689, January 11.—The idea that the retrogression of the shadow on 'the dial of Ahaz' during the illness of Hezekiah, may have been connected with a solar eclipse, has given rise to much discussion, and several writers have endeavoured to point out how the occurrence might thus be explained. Of the eclipses to which attention has been directed, the above has perhaps appeared the more probable. It was an annular eclipse, and at Jerusalem the sun would present the form of a luminous ring for seven and a half minutes, the middle at 10h. 18min. In Babylon it would have the same appearance for seven minutes. It seems hardly probable that the eclipse could have occurred much later in the day, though more than one author has considered the circumstance essential for the explanation of the retrograde motion of the shadow on the ancient form of sun-dial by an eclipse. I must leave the reader to judge how far the expression 'the wonder done in the land' may relate to such a phenomenon, which is, of course, a very rare one in a particular locality.

"3. The Eclipse of Thales, B.C. 585, May 28.—This eclipse, which, as Herodotus informs us, terminated the six years' war between the Medes and Lydians

under Cyaxares and Alyattes, when during a battle 'day was suddenly turned into night,' has greatly exercised the chronologist and the astronomer, and although, misled by imperfect tables of the lunar motions, they have fixed upon other eclipses from time to time, it has been known for some years past that the date distinctly assigned by Pliny (the fourth year of the forty-eighth Olympiad) is the correct one. My new calculation throws the shadow precisely over the tract of country where, with the greatest probability, it has been supposed the contending armies were situated, and in addition it indicates a circumstance which I believe has not resulted from any previous calculation, and which may not be without its chronological import—viz., that the eclipse was total in Nineveh for between three and four minutes shortly before sunset. The date of the final destruction of Nineveh is closely connected with the eclipse of Thales.

"4. The Eclipse of Xerxes, B.C. 478, February 17.—Much difficulty has been experienced by chronologists with regard to an eclipse which occurred, according to Herodotus, in the early spring, when Xerxes was setting out from Sardis on his expedition against Greece. It is certain there was no such phenomenon in the year B.C. 480, to which this event is usually referred, and in examining the eclipses about this period I have found only one that can apply. There is no doubt that the sun was very largely eclipsed at Sardis on the morning of February 17, B.C. 478. A direct calculation for this place shows that more than 94-100ths of the sun's diameter would be covered, the greatest phase ten minutes after eleven, local time. The eclipse was annular, and Sardis appears to have been just outside the annulus. One other eclipse only was visible in eastern Europe about this year, it occurred B.C. 479, October 2, and has been considered to be the one which occurred at the time Cleombrotus consulted the oracles at Sparta. Its magnitude there is found to have been about 6-10ths, the greatest eclipse at 0h. 50min. If the eclipse of B.C. 478 be truly the one recorded by the historian, the date of the battle of Salamis will require to be brought down two years.

"5. The Eclipse of Agathocles, B.C. 310, August 15 (Diodorus, Justin).—On the morning after the fleet of Agathocles sailed from Syracuse for Africa, the historians tell us the sun was eclipsed to such a degree (*tantum fit solis deliquium*) that the stars everywhere appeared as at night. Though Agathocles could hardly have been more than 100 miles from Syracuse, it is uncertain in which direction he had sailed, or whether he was rounding Sicily on the north or south side, and this circumstance detracts from the scientific value of the record. My calculation throws a central line near the African coast, so that the fleet, if sailing southwards, would be near the northern limit of totality.

"6. The Eclipse on the Passage of the Rubicon by Caesar (Dion), B.C. 51, March 7.—This would appear to have been a very notable phenomenon on the Rubicon and in Northern Italy generally. The eclipse was annular, and the annular phase continued 6min. 30sec. At Rome there would be a partial eclipse, about three-fourths of the sun's diameter being covered. A line drawn from 9deg. 24min. E. and 43deg. 26min. N. to 14deg. 39min. E. and 46 deg. 15min. N. will define the course of the central eclipse across Italy, and the ring-formed appearance of the sun would extend to about 1deg. 35min. north

and south of this line. The Rubicon would be placed about midway between the central line and the southern limit. Near Ariminum the middle of the eclipse occurred at 0h. 50min. By some writers (including the Abbé du Fresnoy, in his valuable 'Tablettes Chronologiques,') the eclipse is dated B.C. 50; the above, however, is the correct year.

"A great eclipse has been referred to the year B.C. 43 or 44, soon after the death of Julius Caesar, and it is instanced by Baron de Zach and M. Arago as the first annular eclipse upon record. Calculation shows that there could not have been an eclipse, annular or otherwise, visible in Italy in either of these years, nor indeed for several years before or after. The phenomenon alluded to was, no doubt, of a meteorological character, and this would appear from the passage in Suetonius, one of the authors quoted upon the subject.

"7. The Eclipse of Herod (Josephus).—The lunar eclipse which I take to be the one recorded by the Jewish historian during Herod's last illness, occurred B.C. 1, January 9. On this occasion the moon passed nearly centrally through the earth's shadow, entering it at 11h. 23min. P.M. mean time at Jerusalem, and emerging at 2h. 57min. A.M. on the 10th; the total eclipse continued 1h. 39min. This is the date recognised by Calvisius and recently supported by Mr. Bosanquet. An eclipse in B.C. 4 on the night between March 12-13, which other chronologists have supposed to be the one referred to, was partial only, and did not commence till 1 A.M.; little more than half the moon's diameter was immersed in the earth's shadow at the greatest phase.

"8. The Eclipse of Phlegon in the 202nd Olympiad (Eusebius), A.D. 29, November 24.—Total on a line crossing the Black Sea rather west of Odessa to Sinope, thence near the site of Nineveh to the Persian Gulf. At Jerusalem a partial eclipse; about 11.10 A.M. eight-tenths of the sun's diameter would be covered; at Heliopolis (Baalbec), also partial—nine-tenths. At a point on the central line near Sinope, the totality would continue 1½ minutes. Humboldt mentions that this eclipse had been calculated by Wurm, but I have not met with his results. It is the only solar eclipse that could have been visible in Jerusalem during the period usually fixed for the ministry of Christ.

"The moon was eclipsed on the generally received date of the Crucifixion, A.D. 33, April 3. I find she had emerged from the earth's dark shadow a quarter of an hour before she rose at Jerusalem (6.36 P.M.), but the penumbra continued upon her disc for an hour afterwards.

"9. The Eclipse of 113, May 31.—Kepler, after endeavouring to ascertain the date of a total eclipse mentioned by Plutarch as having 'recently occurred about noon,' when the darkness was like that of night, and stars were seen in all directions, states he had found none which accorded better with the description than the above. On submitting it to calculation with the modern elements, the central line appears to have passed too far north—over Central Germany. I have not succeeded in discovering the date of this eclipse, though I have accurately examined several at the close of the first and beginning of the second century.

"10. The Eclipse of 418, July 19.—Very large at Constantinople, according to Philostorgius, who relates that at the eighth hour of the day the sun was so far eclipsed that the stars appeared, and a comet which had not been previously perceived became

visible during the obscurity, and was watched for more than four months afterwards. According to my calculation the central line passed somewhat to the south of Constantinople, where 95-100ths of the sun's diameter would be covered. At a very short distance below that point the eclipse would be total. This is the second occasion upon which the discovery of a comet during a total, or nearly total, eclipse of the sun is recorded in history.

"11. The Eclipse of 671, December 7, on the attempted removal of the pulpit of Mahomet from Medina.—Professor Ockley, in his 'History of the Saracens,' mentions on the authority of several Arabian writers a large solar eclipse which occurred about the fifty-second year of the Hegira. The Caliph Moawiyah having formed the intention of removing the prophet's pulpit from Medina to his residence at Damascus, his people proceeded to do so, 'when immediately, to their great surprise and astonishment, the sun was eclipsed to that degree that the stars appeared.' Baron de Zach refers the eclipse to 674, October 4, but in this he is certainly mistaken, I believe through a wrong assumption as regards the moon's latitude. The correct date would appear to be 671, December 7. The eclipse of this day was annular on the central line. At Medina the greatest phase occurred at 10h. 43min., when 85-100ths of the sun's diameter would be obscured. In the clear skies of that part of the world, such a degree of eclipse might be sufficient to bring out the brighter planets or stars. No larger eclipse, visible at Medina, occurred about this epoch.

"12. The Eclipse of 840, May 5.—Among the causes which are said to have brought on the '*maladie de langueur*' that terminated the life of Louis de Debonnaire was 'the fright which a total eclipse of the sun had occasioned him.' It is related that the king was taken ill at Worms, and having been removed to Ingelheim, near Mayence, he died there on the 20th of June. I find the northern limit of totality in this eclipse passed about 100 miles south of Worms, and on the central line in this longitude the total eclipse continued 5min. 25sec., an unusually long interval for the latitude of Central Europe. The middle occurred at 1.5 p.m., with the sun at an altitude of 57deg. The phenomenon under such circumstances must have been a very imposing one, and well calculated in those days to inspire alarm.

"I have already described in your columns the track of the total Eclipse of 1140, March 20 (William of Malmesbury), across this country, and merely refer to it now to add, that if any one of your readers is aware of its having been recorded as total in London, he might be doing an astronomical service by making the fact generally known.

"13. The Eclipse of 1133, August 2 (William of Malmesbury), a great solar eclipse, considered as foreboding evil to Henry I of England.—The central line traversed Scotland from Ross to Forfar, and the eclipse was, of course, large in every part of the country. It would be total in Northumberland. In the centre of Forfarshire totality continued 4min. 20sec. Berwick-upon-Tweed was about twenty miles within the south limit.

"During the existence of the kingdom of Jerusalem there is mention of an eclipse which would appear to have been total in the city or its immediate neighbourhood, and has been variously dated from the election of Godfrey of Bouillon, in 1097. I am inclined to think it must be to the eclipse of August,

1133, that the record applies, though previous or subsequent events may have been mixed up with it by the historian. Continuing the calculation of the track of total eclipse after leaving this island, I find it would enter Palestine near Jaffa, and pass over Jerusalem and Hebron, where the sun would be hidden $4\frac{1}{2}$ minutes about 3 p.m., and from Nablous on the north to Ascalon on the south the country would be in darkness for nearly the same interval. The magnitude of the eclipse of 1187, September 4, was rather more than 9-10ths at Jerusalem, the central line passing between eight and nine degrees to the north; in the eclipse of 1191, June 23, the magnitude was about 7-10ths.

"14. The Eclipse of 1433, June 17, long remembered in Scotland as 'the black hour.'—It was a remarkable eclipse, the moon being nearly in perigee and the sun not far from apogee. The central line traversed the country in a south-easterly direction, from Ross to Forfar, passing near Inverness and Dundee. Maclaurin mentions that in his time a manuscript account of this eclipse was preserved in the University of Edinburgh, wherein the darkness is said to have come on about 3 p.m., and to have been very profound. By a direct calculation for Edinburgh, I find that the total eclipse commenced at 3h. 3min. and continued 3min. 41secs. At Inverness totality continued 4min. 32secs. The after-course of this eclipse was north of Frankfort-on-the-Maine and Munich, over the Dardanelles, south of Aleppo, and thence nearly parallel to the course of the Euphrates to the north-east border of Arabia. The totality was observed in the Turkish dominions, according to Calvisius.

"15. The Eclipse of 1508, February 25.—Maclaurin says the memory of this eclipse was preserved among the people of Scotland, and 'that day they termed Black Saturday.' He adds:—'There is a tradition that some persons in the north lost their way in the time of this eclipse, and perished in the snow'—a statement the probability of which our experience of recent phenomena by no means tends to support. The central eclipse may be described as having passed about five miles south of Stranraer to the Bass Rock, a little south of Edinburgh, or, more precisely, over Dalkeith. Totality came on at Edinburgh at 10h. 15min., and continued 1min. 30secs. The duration was the same at Douglas, Isle of Man. From the rapid motion of the moon in declination, the course of the second line was a quickly-ascending one, in latitude on the earth's surface, the total eclipse passing off within the Arctic circle. Kepler must refer to another eclipse which was observed by Jessenius at Torgau, on the Elbe, though he gives the above date.

"16. The Eclipse of 1652, April 8, to which reference is also made by Maclaurin as 'still famous among the populace of Scotland, and known among them by the appellation of Mirk Monday.'—The central line passed over the south-east of Ireland, near Wexford and Wicklow, arrived on the shores of Scotland near Burrow Head, Wigtonshire, and running within a few miles from Edinburgh, Montrose, and Aberdeen, left the island at Peterhead. Greenock and Elgin would be situate near the north limit, and the Cheviots and Berwick upon the south limit of totality. The eclipse was observed at Carrickfergus, Ireland, by Dr. Wyberd. I find by direct calculation for this place, that it was only just within the north limit of totality, which would commence at

10h. 8min. 30secs., and continue 44secs. This short duration may partly explain a curious remark of Dr. Wyberd, that when the sun was reduced to 'a very slender crescent of light, the moon all at once threw herself within the margin of the solar disc with such agility that she seemed to revolve like an upper millstone, affording a pleasant spectacle of rotatory motion.' Wyberd's further description clearly applies to the corona.

"I believe it has been generally supposed that the last total eclipse of the sun visible in England was that of 1715, May 3, so well recorded by Halley in the 'Philosophical Transactions' of the Royal Society, and I was under this impression myself until, on calculating the elements of the eclipse of 1724 (May 22), observed at Paris, and by the French King at the Trianon, I discovered that before reaching France the belt of totality must have traversed the south-west of England, and it now appears that the totality did not pass by us unrecorded.

"I am indebted to the Astronomer Royal for referring me to an account by Dr. Stukeley, who observed the eclipse from Salisbury Plain. The duration of totality in that locality would be rather less than three minutes. The eclipse of 1724 is therefore the last that has been total in England, and as I have shown in a previous communication, there will be no other till August 11, 1999, and that will be confined to the south-west corner of the country."

Varieties.

MR. PERCEVAL'S ASSASSINATION.—In the February part is related the often-quoted dream of the assassination of Mr. Perceval. It is there stated that some of those who had heard the late Mr. Williams, of Scorrier, relate the dream were alive in 1828. It may, perhaps, interest you to hear that one of those who were present at his breakfast-table in the morning after his dream, when he related what had occurred, is now alive in the person of my mother, Mrs. Pearce Rogers, of Falmouth, who is now in her 81st year, and in possession of her faculties, and was at the time on a visit to her uncle, the dreamer; and during the past autumn she related to me the dream as vividly as she had done fifty years since. In a little book called "Early Years and late Reflections," by the late Dr. Carlyon, of Truro, and published about thirty years since, is related this dream, and also another dream of a Mr. Norway, of Cornwall, who dreamed, while on a voyage home from the East, that he saw his brother murdered on the road between Bodmin and Wadebridge, near an empty house. On his arrival in England he found his dream was only too true, and it appeared that the house had been erected after he left England.—P. W. ROGERS, Registrar in Chancery. P.S.—I may mention that Dr. H. Brown, the present Bishop of Ely, married a daughter of Dr. Carlyon, and that Mr. Michael Williams, the son of the dreamer, was, up to the time of his death, which occurred about fifteen years since, M.P. for West Cornwall.

ROOKS.—A "Scottish Farmer," whose notes on rooks last year led to some useful correspondence, sends another communication. A farmer of forty years' experience, referring to the uprooting of plants by rooks in the search for grubs, said that "they never attack healthy plants" ("Leisure Hour," 1872, p. 608). The "Scottish Farmer" replies to this statement thus: "The habits of many, perhaps all, of the lower animals, are partly *instinctive* and partly *acquired*. Circumstances make, change, or modify the latter, and the habits of rooks may be slightly different in different parts of the country. I cannot say whether rooks acquired the habit now under discussion by often coming upon fields of diseased plants; but it is now certain that they pull up healthy and diseased indiscriminately, at least in this quarter. On a neighbouring farm, where turnips have never been diseased, they lately pulled up a large extent one Sunday while the people were at church. I have examined young turnips uprooted

by rooks, and also potatoes, and much oftener found them without a speck of disease than otherwise, as healthy, vigorous plants as one could wish to see in his fields. Rooks also eat grain, whatever naturalists may say to the contrary, and that in large quantities where they are numerous. I have often seen them alighting in a cornfield, on some knoll where the soil is thin and the corn short, or about the sides of the field. They then jump up and pull down an ear of corn, and when they have eaten all the grains on it, jump up and pull down another, and so on. I have frightened them away when so engaged, then gone to the place and found only the chaff left on the ears, the grains had vanished. I have times without number seen a flock of hundreds of them actually covering the tops of 'stooks' in harvest, so thickly were they feeding together; and if undisturbed for any length of time, the outside of the stook was entirely denuded of grain. I do not say a word against rooks as rooks. I know that the larvæ of injurious insects which they destroy are legion. They never, however, eat the "grub," a buff-coloured maggot, which is the great pest of the cornfields here. I have often watched them closely, but it seems to be too tough a morsel. They may do good by destroying insect pests, but, like other good things, we may get too much of them—by over-preservation."—J. H. (Durrie, Campbeltown, Argyllshire).

LORD HATHERLEY AS A SUNDAY SCHOOL TEACHER.—The late Lord Chancellor read a paper on Sunday schools at the last Church Congress. Among other suggestions, he said, it would be found convenient to allow five or six minutes of entire rest of mind before the school was left for the church, "in this interval I have myself left it to the boys to ask any question they pleased upon any subject with the most perfect freedom. The questions are sometimes quaint enough—usually upon the topics of the day—such as the last remarkable murder and the like—sometimes on the differences between the Church of England and other religious communities. On one occasion I was asked my opinion on the state of the Osmanli Empire—this I found to be due to my interrogator being employed during the week as reader in a printing-office. One concluding observation I wish to make, that the teacher should throw himself heartily into the work, have a lively sympathy with the children he instructs, and make them thoroughly understand that it is out of regard to them that he teaches as a friend and not with the necessary strictness of the everyday instructor. Punishment in a Sunday school should never go beyond withholding privileges."

RECIPROCITY.—The following amusing correspondence passed between the acting managers respectively of a west-end theatre and a west-end milliner:—"Sir,—If you are now issuing any complimentary orders for your theatre, may I ask you to circulate a few through me for the ladies and gentlemen of our house? By doing so you may rely upon them being used by fashionable and well-dressed persons. I hope you will pardon the liberty I have taken by writing to you, and trusting the suggestion may meet with your approbation, I am, sir, yours obediently, —" The following answer was forwarded by return of post:—"Sir,—If you are now issuing any complimentary black silk dresses, may I ask you to circulate a few through me for the ladies of this theatre? By doing so you may rely on their being made up fashionably and worn by ladies of good appearance and figure. I hope you will pardon the liberty, but, trusting the suggestion may meet with your approval, I am, sir, yours obediently, —" —Observer.

JANE AUSTEN.—A few years ago, a gentleman visiting the beautiful cathedral of Winchester, England, desired to be shown the grave of Jane Austen. The vergers, as he pointed it out, asked, "Pray, sir, can you tell me whether there was anything particular about that lady; so many people want to know where she was buried?" We fancy the ignorance of the honest vergers is shared by most American readers of the present day, respecting the life and character of a lady whose novels commanded the admiration of Scott, of Mackintosh, and Macaulay, of Coleridge, of Southey, and others of equal eminence in the world of letters. Even during her life time she was known only through her novels. Unlike her gifted contemporary, Miss Mitford, she lived in entire seclusion from the literary world; neither by correspondence nor by personal intercourse was she known to any contemporary authors. It is probable that she never was in company with any person whose talents or whose celebrity equalled her own; so that her powers never could have been sharpened by collision with superior intellects, nor her imagination aided by their casual suggestions. Even during the last two or three years of her life, when her works were rising in the estimation of the public, they did not enlarge the circle of her acquaintance. Few of her readers knew even her name, and none knew more of her than her name.—Boston Paper, U. S.

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